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10/535,094	05/16/2005	Naohiro Yoshida	123407	8609

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EXAMINER	
PARSONS, THOMAS H	
ART UNIT	**PAPER NUMBER**
1795	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/535,094	YOSHIDA ET AL.	
	Examiner	Art Unit	
	Thomas H. Parsons	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 May 2005 and 23 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Paragraph [0017], line 4, suggest changing "thedisclosure" to --the disclosure--.

Paragraph [0035], line 5, suggest changing "form" to --from--.

Paragraph [0035], line 6, Should "supplied" be changed to --discharged--?

Paragraph [0040], line 7, suggest changing "form" to --from--.

Paragraph [0055], line 2, suggest changing "form" to --from--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 rejected under 35 U.S.C. 102(b) as being anticipated by JP2001-307758.

Claim 1: JP2001-307758 (hereafter JP'758) in Figures 1-3 disclose a fuel cell system (10) that generates electric power when supplied with hydrogen and oxygen, comprising:

a fuel cell stack (20) including a hydrogen electrode (22) and an oxygen electrode (23) that are disposed at opposite sides of an electrolyte (21);

a hydrogen supplier portion (64) that supplies hydrogen to the hydrogen electrode;

an oxygen supplier portion (66) that supplies oxygen to the oxygen electrode;

an input portion (58) that inputs a requested electric power;

a generation control portion (50, 33) in communication with oxygen supplier portion and the hydrogen supplier portion; and

a non-generation-time control portion (50, 33) in communication with oxygen supplier portion and the hydrogen supplier portion. See paragraphs [0017]-[0030], [0005]-[0012], and [0031]-[0033].

The recitations "that causes the fuel cell stack to generate an electric power corresponding to the requested electric power by controlling the oxygen supplier portion and the hydrogen supplier portion", and "that stops a generation control performed by the generation control portion if the requested electric power is lower than or equal to a predetermined value, and that operates at least one of the oxygen supplier portion and the hydrogen supplier portion based on a predetermined condition regardless of the requested electric power" have been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 us structurally the same as that instantly disclosed, it appears capable of provided the claimed process.

Claim 2: JP'758 in Figure 1 discloses a non-generation-time control portion in communication with at least one of the oxygen supplier portion and the hydrogen supplier portion.

The recitation "operates at least one of the oxygen supplier portion and the hydrogen supplier portion at a preset timing" has been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 us structurally the same as that instantly disclosed, it appears capable of provided the claimed process.

Claim 3: JP'758 in Figure 1 discloses a non-generation-time control portion in communication with the oxygen supplier portion.

The recitation "operates the oxygen supplier portion at the preset timing" has been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 us structurally the same as that instantly disclosed, it appears capable of provided the claimed process.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 4-9 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'758 as applied to claim 1 above.

JP'758 is as applied, argued, and disclosed above, and incorporated herein.

Claim 4: JP'758 in paragraph [0042] discloses that control section 50 is constituted as a logical circuit centering on a microcomputer, and consists of CPU52, ROM54, RAM56, and input/output port 58. CPU52 performs a predetermined operation etc. according to the control program set up beforehand. A control program, control data, etc. required to perform various data processing are beforehand stored in ROM54 by CPU52, and various data required to perform various data processing by CPU52 as well as RAM56 are written temporarily. While input/output port 58 inputs the detecting signal from various sensors, such as the remaining capacity monitor 46, etc., according to the result of an operation in CPU52, it outputs a driving signal to an inverter 80 etc., and controls the drive condition of each part of a fuel cell system.

In paragraph [0043], JP'758 discloses that although only the input of the detecting signal from the remaining capacity monitor 46 and the signal from a current sensor 90, the output of the driving signal of an inverter 80, and the exchange of the signal between control units 33 were shown about the control section 50, in addition to this, the control section 50 is performing various control in a fuel cell system.

In paragraph [0032], JP'758 discloses that such a fuel cell 20 can control an output by adjusting the amount of fuel gas, and oxidation capacity according to the magnitude of the load connected. Control of this output is performed by the control section 50. That is, the driving signal from a control section 50 is outputted to the electro-magnetic valve 67 prepared in the air compressor 66 mentioned already or the fuel-supply way 68, the amount of distributed gas is controlled by adjusting the amount of drives and switching condition, and the output of a fuel cell 20 is adjusted.

Therefore, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the fuel cell system if JP '758 by incorporating a voltage measurement portions connected that measures a voltage between a positive electrode and a negative electrode of the fuel cell stack, provide this as an input to the control section, and provide a signal to alter the flow of oxygen or hydrogen depending upon the output requirement of the load.

The recitation "wherein the predetermined condition is that the voltage is lower than or equal to a predetermined value" has been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 us structurally the same as that instantly disclosed, it appears capable of provided the claimed process. Further, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the control section 50 with the control program, control data, etc. required to perform various data processing stored in ROM54 by CPU52 beforehand, and the various data required to perform various data processing by CPU52 as well as RAM56.

Claim 5: JP'758 in Figure 1 discloses a non-generation time control portion (50) connected to the oxygen supplier portion.

The recitation "wherein the non-generation-time control portion operates the oxygen supplier portion if the voltage becomes equal to or less than the predetermined value" has been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 is structurally the same as that instantly disclosed, it appears capable of provided the claimed process. Further, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the control section 50 with the control program, control data, etc. required to perform various data processing stored in ROM54 by CPU52 beforehand, and the various data required to perform various data processing by CPU52 as well as RAM56.

Claims 6 and 14-17: In paragraph [0031], JP'758 discloses the pressure of the fuel gas supplied to an anode 22 can be easily adjusted by controlling the switching condition of the electro-magnetic valve 67 of a mass flow controller prepared in the described fuel-supply way 68.

JP'758 in paragraph [0042] discloses that control section 50 is constituted as a logical circuit centering on a microcomputer, and consists of CPU52, ROM54, RAM56, and input/output port 58. CPU52 performs a predetermined operation etc. according to the control program set up beforehand. A control program, control data, etc. required to perform various data processing are beforehand stored in ROM54 by CPU52, and various data required to perform various data processing by CPU52 as well as RAM56 are written temporarily. While input/output port 58 inputs the detecting signal from various sensors, such as the remaining capacity monitor 46, etc., according to the result of an operation in CPU52, it outputs a driving signal to an inverter 80 etc., and controls the drive condition of each part of a fuel cell system.

In paragraph [0043], JP'758 discloses that although only the input of the detecting signal from the remaining capacity monitor 46 and the signal from a current sensor 90, the output of the driving signal of an inverter 80, and the exchange of the signal between control units 33 were

shown about the control section 50, in addition to this, the control section 50 is performing various control in a fuel cell system.

In paragraph [0032], JP'758 discloses that such a fuel cell 20 can control an output by adjusting the amount of fuel gas, and oxidation capacity according to the magnitude of the load connected. Control of this output is performed by the control section 50. That is, the driving signal from a control section 50 is outputted to the electro-magnetic valve 67 prepared in the air compressor 66 mentioned already or the fuel-supply way 68, the amount of distributed gas is controlled by adjusting the amount of drives and switching condition, and the output of a fuel cell 20 is adjusted.

Therefore, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the fuel cell system if JP '758 by incorporating a hydrogen pressure sensor detection portion that detects a pressure of hydrogen supplied to the hydrogen electrode.

The recitation "wherein the non-generation-time control portion controls the oxygen supplier portion so as to supply oxygen to the oxygen electrode if the pressure of hydrogen decreases by a predetermined amount from a hydrogen pressure level occurring when a generation control performed by the generation control portion is stopped" has been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 is structurally the same as that instantly disclosed, it appears capable of provided the claimed process. Further, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the control section 50 with the control program, control data, etc. required to perform

various data processing stored in ROM54 by CPU52 beforehand, and the various data required to perform various data processing by CPU52 as well as RAM56.

Claim 7: In paragraph [0031], JP'758 discloses the pressure of the fuel gas supplied to an anode 22 can be easily adjusted by controlling the switching condition of the electro-magnetic valve 67 of a mass flow controller prepared in the described fuel-supply way 68.

JP'758 in paragraph [0042] discloses that control section 50 is constituted as a logical circuit centering on a microcomputer, and consists of CPU52, ROM54, RAM56, and input/output port 58. CPU52 performs a predetermined operation etc. according to the control program set up beforehand. A control program, control data, etc. required to perform various data processing are beforehand stored in ROM54 by CPU52, and various data required to perform various data processing by CPU52 as well as RAM56 are written temporarily. While input/output port 58 inputs the detecting signal from various sensors, such as the remaining capacity monitor 46, etc., according to the result of an operation in CPU52, it outputs a driving signal to an inverter 80 etc., and controls the drive condition of each part of a fuel cell system.

In paragraph [0043], JP'758 discloses that although only the input of the detecting signal from the remaining capacity monitor 46 and the signal from a current sensor 90, the output of the driving signal of an inverter 80, and the exchange of the signal between control units 33 were shown about the control section 50, in addition to this, the control section 50 is performing various control in a fuel cell system.

In paragraph [0032], JP'758 discloses that such a fuel cell 20 can control an output by adjusting the amount of fuel gas, and oxidation capacity according to the magnitude of the load connected. Control of this output is performed by the control section 50. That is, the driving

signal from a control section 50 is outputted to the electro-magnetic valve 67 prepared in the air compressor 66 mentioned already or the fuel-supply way 68, the amount of distributed gas is controlled by adjusting the amount of drives and switching condition, and the output of a fuel cell 20 is adjusted.

Therefore, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the fuel cell system if JP '758 by incorporating a hydrogen pressure sensor detection portion that detects a pressure of hydrogen supplied to the hydrogen electrode.

The recitation "wherein the predetermined condition is when the pressure of hydrogen is lower than or equal to a predetermined value" has been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 is structurally the same as that instantly disclosed, it appears capable of provided the claimed process. Further, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the control section 50 with the control program, control data, etc. required to perform various data processing stored in ROM54 by CPU52 beforehand, and the various data required to perform various data processing by CPU52 as well as RAM56.

Claim 8: The rejection of claim 8 is as set forth above in claim 7.

The recitation "the non-generation-time control portion operates the hydrogen supplier portion if the pressure of hydrogen becomes equal to or less than the predetermined value" has been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 is structurally the same as that instantly disclosed, it appears capable of provided the claimed process. Further, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the control section 50 with the control program, control data, etc. required to perform various data processing stored in ROM54 by CPU52 beforehand, and the various data required to perform various data processing by CPU52 as well as RAM56.

Claims 9 and 18: The rejection of claim 9 is as set forth above in claim 7.

The recitation " wherein the non-generation-time control portion controls the oxygen supplier portion so as to supply oxygen to the oxygen electrode if the pressure of hydrogen decreases by a predetermined amount from a hydrogen pressure level occurring when a generation control performed by the generation control portion is stopped" has been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 is structurally the same as that instantly disclosed, it appears capable of provided the claimed process. Further, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the control section 50 with the control program, control data, etc. required to perform various data processing stored in ROM54 by CPU52 beforehand, and the various data required to perform various data processing by CPU52 as well as RAM56.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP2001-307758 as applied to claim1 above, and further in view of Scheffler et al. (US 6,393,354).

JP2001-307758 is as applied, argued, and disclosed above, and incorporated herein.

Claim 10: JP'758 does not disclose a power increase anticipation portion that anticipates an increase in the requested electric power.

Scheffler et al. in Figure 2 disclose a power increase anticipation portion (26) that anticipates an increase in the requested electric power (via 28)(col. 2: 33-60, col. 4: 15-32, and col. 4: 64-col. 7: 64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the fuel cell system of JP'758 with the power increase anticipation portion of Scheffler et al. because Scheffler et al. teach a power increase anticipation portion that would have reduced, minimized, or eliminated fuel cell stack assembly starvation during electrical load transients thereby improving the overall efficiency and performance of the fuel cell.

The recitation "wherein the predetermined condition is when an increase in the requested electric power is anticipated" has been considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 us structurally the same as that instantly disclosed, it appears capable of provided the claimed process. Further, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the control section 50 with the control program, control data, etc. required to perform various data processing stored in ROM54 by CPU52 beforehand, and the various data required to perform various data processing by CPU52 as well as RAM56.

7. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2001-307758 in view of Scheffler et al. (US 6393,354).

Claim 11: JP'758 in Figures 1-3 disclose a mobile unit capable of moving by an electric motor that is driven by a fuel cell system as an energy source, comprising:

a fuel cell system (10), the fuel cell system comprising:

a fuel cell stack (20) including a hydrogen electrode (28) and an oxygen electrode (23) that are disposed at opposite sides of an electrolyte (21);

a hydrogen supplier portion (64) that supplies hydrogen to the hydrogen electrode;

an oxygen supplier portion (66) that supplies oxygen to the oxygen electrode;

an input portion (58) that inputs a requested electric power to drive the motor; and

a generation control portion (50, 33) in communication with the oxygen supplier portion and the hydrogen supplier portion;

and

a non-generation-time control portion (50, 30) in communication with the oxygen supplier portion and the hydrogen supplier portion.

The recitations "that causes the fuel cell stack to generate an electric power corresponding to the requested electric power by controlling the oxygen supplier portion and the hydrogen supplier portion", and "that stops a generation control performed by the generation control portion if the requested electric power is lower than or equal to a predetermined value, and that operates at least one of the oxygen supplier portion and the hydrogen supplier portion based on a predetermined condition regardless of the requested electric power" have been

considered, and construed as process limitations that add no additional structure to the fuel cell system.

However, because the fuel cell system of JP'758 us structurally the same as that instantly disclosed, it appears capable of provided the claimed process.

JP'758 in paragraph [0042] discloses that control section 50 is constituted as a logical circuit centering on a microcomputer, and consists of CPU52, ROM54, RAM56, and input/output port 58. CPU52 performs a predetermined operation etc. according to the control program set up beforehand. A control program, control data, etc. required to perform various data processing are beforehand stored in ROM54 by CPU52, and various data required to perform various data processing by CPU52 as well as RAM56 are written temporarily. While input/output port 58 inputs the detecting signal from various sensors, such as the remaining capacity monitor 46, etc., according to the result of an operation in CPU52, it outputs a driving signal to an inverter 80 etc., and controls the drive condition of each part of a fuel cell system.

In paragraph [0043], JP'758 discloses that although only the input of the detecting signal from the remaining capacity monitor 46 and the signal from a current sensor 90, the output of the driving signal of an inverter 80, and the exchange of the signal between control units 33 were shown about the control section 50, in addition to this, the control section 50 is performing various control in a fuel cell system.

In paragraph [0032], JP'758 discloses that such a fuel cell 20 can control an output by adjusting the amount of fuel gas, and oxidation capacity according to the magnitude of the load connected. Control of this output is performed by the control section 50. That is, the driving signal from a control section 50 is outputted to the electro-magnetic valve 67 prepared in the air

compressor 66 mentioned already or the fuel-supply way 68, the amount of distributed gas is controlled by adjusting the amount of drives and switching condition, and the output of a fuel cell 20 is adjusted.

Therefore, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the control section 50 with the control program, control data, etc. required to perform various data processing stored in ROM54 by CPU52 beforehand, and the various data required to perform various data processing by CPU52 as well as RAM56.

JP'758 does not disclose a power increase anticipation portion that anticipates an increase in the requested electric power.

Scheffler et al. in Figure 2 disclose a power increase anticipation portion (26) that anticipates an increase in the requested electric power (via 28)(col. 2: 33-60, col. 4: 15-32, and col. 4: 64-col. 7: 64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the fuel cell system of JP'758 with the power increase anticipation portion of Scheffler et al. because Scheffler et al. teach a power increase anticipation portion that would have reduced, minimized, or eliminated fuel cell stack assembly starvation during electrical load transients thereby improving the overall efficiency and performance of the fuel cell.

Claim 12: The rejection of claim 12 is as set forth above in claim 11 wherein the recitation "wherein the power increase anticipation portion anticipates the increase based on at least one of an operation of an operating portion related to acceleration or deceleration of the

mobile unit, a prediction related to a route of the mobile unit, and an acceleration that acts on the mobile unit in a direction transverse to a traveling direction of the mobile unit" has been considered, and construed as a process limitations that add no additional structure to the fuel cell system.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP2001-307758.

Claim 13: JP2001-307758 in Figures 1 and 3 disclose a control method (50, 33) for a fuel cell system (10) that generates electric power when supplied with hydrogen and oxygen, comprising: providing a fuel cell system, the fuel cell system comprises a fuel cell stack (20) including a hydrogen electrode (28) and an oxygen electrode (23) that are disposed at opposite sides of an electrolyte (21), a hydrogen supplier portion (64) that supplies hydrogen to the hydrogen electrode, and an oxygen supplier portion (66) that supplies oxygen to the oxygen electrode;

inputting a requested electric power (58); See paragraphs [0017]-[0030], [0005]-[0012], and [0031]-[0033]

causing the fuel cell stack to generate an electric power corresponding to the requested electric power by controlling the oxygen supplier portion and the hydrogen supplier portion; stopping electric power generation by the fuel cell stack if the requested electric power is lower than or equal to a predetermined value (paragraphs [0047]-[61].

JP'758 does not disclose operating at least one of the oxygen supplier portion and the hydrogen supplier portion based on a predetermined condition regardless of the requested electric power after the electric power generation is stopped.

However, JP'758 in paragraph [0042] discloses that control section 50 is constituted as a logical circuit centering on a microcomputer, and consists of CPU52, ROM54, RAM56, and input/output port 58. CPU52 performs a predetermined operation etc. according to the control program set up beforehand. A control program, control data, etc. required to perform various data processing are beforehand stored in ROM54 by CPU52, and various data required to perform various data processing by CPU52 as well as RAM56 are written temporarily. While input/output port 58 inputs the detecting signal from various sensors, such as the remaining capacity monitor 46, etc., according to the result of an operation in CPU52, it outputs a driving signal to an inverter 80 etc., and controls the drive condition of each part of a fuel cell system.

Therefore, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the control section 50 with the control program, control data, etc. required to perform various data processing stored in ROM54 by CPU52 beforehand, and the various data required to perform various data processing by CPU52 as well as RAM56. It would have been obvious to one skilled in the art at the time the invention was made to have operated at least one of the oxygen supplier portion and the hydrogen supplier portion after the electric power generation is stopped in order to purge the fuel cell system of moisture to prevent the system from freezing, or to maintain the fuel cell system, including the reformer, at the required temperature during an idle mode, or to bring the fuel cell system to the start up temperature, or as needed to shutdown the system.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thomas H Parsons
Examiner
Art Unit 1795

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PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER